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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,945	10/06/2006	Laurent Caron	FR-AM 2024 NP	5453
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ARKEMA INC. PATENT DEPARTMENT - 26TH FLOOR 2000 MARKET STREET PHILADELPHIA, PA 19103-3222				
EXAMINER				
MC GINTY, DOUGLAS J				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
09/12/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/593,945

**Applicant(s)**

CARON, LAURENT

**Examiner**

DOUGLAS MC GINTY

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/86)  
Paper No(s)/Mail Date 10-6-06 & 9-22-06
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 should have either 1,1,1,3,3,3-hexafluoropropane (**236fa**) or 1,1,1,2,3,3,3-heptafluoropropane (**227ea**). See CAS reg. nos. 690-39-1 and 431-89-0 included with this Office Action.

### ***Claim Rejections - 35 USC §§ 102 and 103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-4 and 6-9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bogdan (US 2003/0050356).

Bogdan teaches a composition containing 1,1,1,3,3-pentafluorobutane (365mf), trans-1,2-dichloroethylene, and 1,1,1,3,3-pentafluoropropane (245fa), with amounts overlapping or touching the ranges presently claimed [0014-0016]. The composition may be used as an expanding agent, i.e., foaming agent, for polyol-containing compositions [0029], solvent and aerosol [0018], and cooling agent, i.e., refrigerant [0021].

Bogdan teaches that the upper limit for the non-HFC component, i.e., trans-1,2-dichloroethylene, is "about 23 wt%" [0015]. The "about 23 wt%" limitation is an approximate value which touches on the lower limits of 24 and 25 wt% presently claimed. See *Ortho-McNeil Pharmaceutical, Inc. v. Caraco Pharmaceutical Laboratories, Ltd.*, 476 F.3d 1321, 1326 (Fed. Cir. 2007).

With respect to claim 4 which requires a minimum of 65 wt% for trans-1,2-dichloroethylene, Bogdan teaches that an upper limit for that compound is "preferably ... about 23 wt%" [0015]. A preferred amount does not negate the broader teachings of the reference, however, which indicate that 50 wt% or more of the trans compound is still non-flammable [0014].

Based on the foregoing, Bogdan is found to anticipate the present claims. The presently claimed invention also would have been obvious over the

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teachings of Bogdan because that reference teaches compositions of 1,1,1,3,3-pentafluorobutane (365mfc), trans-1,2-dichloroethylene, and 1,1,1,3,3-pentafluoropropane (245fa) which may be used as an expanding agent, i.e., foaming agent, for polyol-containing compositions, solvent and aerosol, and cooling agent, i.e., refrigerant.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bogdan (US 2003/0050356) as applied to claims 1-4 and 6-9 above, and further in view of Bowman (US 2007/0010592).

To the extent claim 5 is understood, Bogdan does not appear to teach the addition of either 1,1,1,3,3,3-hexafluoropropane (236fa) or 1,1,1,2,3,3,3-heptafluoropropane (227ea).

Nevertheless, Bowman teaches the addition of 1,1,1,3,3,3-hexafluoropropane (236fa) and/or 1,1,1,2,3,3,3-heptafluoropropane (227ea) to blowing compositions containing a wide variety other compounds, including those presently claimed [0049, 0055, 0056]. Other uses include cooling agents, i.e., refrigerants [0002].

It would have been obvious to incorporate the 1,1,1,3,3,3-hexafluoropropane (236fa) and/or 1,1,1,2,3,3,3-heptafluoropropane (227ea) taught by Bowman in the compositions taught by Bogman because both references teach mixtures used as blowing and cooling agents. "The combination of familiar [components] according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR Intern. Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1739 (2007). Obviousness only requires a

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reasonable expectation of success. *In re O'Farrell*, 853 F.2d 894, 904 (Fed. Cir. 1988).

### ***Secondary Considerations***

The examples at p. 7 of the present application have been carefully reviewed. However, the evidence of unexpectedly better results, e.g., flashpoints, is not considered to be commensurate with the scope of the presently claimed invention. MPEP 716.02(d).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOUGLAS MC GINTY whose telephone number is (571)272-1029. The examiner can normally be reached on M-F, 830-500.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DOUGLAS MC GINTY/  
Primary Examiner, Art Unit 1796

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